SEQUENCE LISTING

<110> Iversen, Patrick L.

<120> Antisense Antibacterial Method and
    Composition

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<140> US 09/726,774
<141> 2000-11-29

<150> US 60/168,150
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cgtaaagctc tgttgtaaga agaacgag tgtgagagtg gaaagttcac actgtgacgg     480
tatcttacca gaaagggacg gctaactacg tgccagcagc cgcggtaata cgtaggtccc    540
gagcgttgtc cggatttatt gggcgtaaag cgagcgcagg cggttagata agtctgaagt    600
taaaggctgt ggcttaacca tagtaggctt tggaaactgt ttaacttgag tgcaagaggg    660
gagagtggaa ttccatgtgt agcggtgaaa tgcgtagata tatggaggaa caccggtggc    720
gaaagcggct ctctggcttg taactgacgc tgaggctcga aagcgtgggg agcaaacagg    780
attagatacc ctggtagtcc acgctgtaaa cgatgagtgc taggtgttag acccttccg     840
gggtttagtg ccgtagctaa cgcattaagc actccgcctg gggagtacga ccgcaaggtt    900
gaaactcaaa ggaattgacg ggggcccgca caagcggtgg agcatgtggt ttaattcgaa    960
gcaacgcgaa gaaccttacc aggtcttgac atccctctga ccgctctaga gatagagttt   1020
tccttcggga cagaggtgac aggtggtgca tggttgtcgt cagctcgtgt cgtgagatgt   1080
tgggttaagt cccgcaacga gcgcaacccc tattgttagt tgccatcatt cagttgggca   1140
ctctagcgag actgccggta ataaaccgga ggaaggtggg gatgacgtca aatcatcatg   1200
ccccttatga cctgggctac acacgtgcta caatggctgg tacaacgagt cgcaagccgg   1260
tgacggcaag ctaatctctt aaagccagtc tcagttcgga ttgtaggctg caactcgcct   1320
acatgaagtc ggaatcgcta gtaatcgcgg atcagcacgc cgcggtgaat acgttcccgg   1380
gccttgtaca caccgcccgt cacaccacga gagtttgtaa cacccgaagt cggtgaggta   1440
accgtaagga gccagccgcc taaggtggga tagatgattg gggtgaagtc gtaacaaggt   1500
cagccgtttg ggaga                                                    1515
```

<210> 10
<211> 1544
<212> DNA
<213> Treponema palladium

<400> 10
```
agagtttgat catggctcag aacgaacgct ggcggcgcgt cttaagcatg caagtcgaac     60
ggcaagagag gagcttgctt ctctcctaga gtggcggact ggtgaggaac acgtgggtaa    120
tctaccctta agatggggat agctgctaga aatagcaggt aataccgaat atactcagtg    180
cttcataagg ggtattgagg aaaggaagct acggcttcgc ttgaggatga gcttgcgtcc    240
cattagctag ttggtgaggt aaaggcccac caaggcgacg atgggtatcc ggcctgagag    300
ggtgatcrga cacattggga ctgagatacg gcccaaactc ctacgggagg cagcagctaa    360
gaatattccg caatggacgg aagtctgacg gagcgacgcc gcgtggatga agaaggctga    420
aaagttgtaa aatccttttg ttgatgaaga ataagggtga gaggaatgc tcatctgatg     480
acggtaatcg acgaataagc cccggctaat tacgtgccag cagccgcggt aacacgtaag    540
gggcgagcgt tgttcggaat tattgggcgt aaagggcatg taggcggtta tgtaagcctg    600
atgtgaaatc ctggggctta accccagaat agcattgggt actgtgtaac ttgaattacg    660
gaagggaaac tggaattcca gtgtaggggg tggaatctgt agatatttgg aagaacaccg    720
gtggcgaagg cgggtttctg gccgataatt gacgctgaga tgcgaaagtg tggggatcga    780
acaggattag ataccctggt agtccacacc gtaaacgatg tacactaggt gttggggcaa    840
gagcttcagt gccaaagcaa acgcgataag tgtaccgcct ggggagtatg cccgcaaggg    900
```
```

                                    6
```

```
tgaaactcaa aggaattgac ggggggcccgc acaagcggtg gagcatgtgg tttaattcga    960
tggtacgcga ggaaccttac ctgggtttga catctagtag aaggtcttag agataaggcc   1020
gggtagcaat accctgctag acaggtgctg catggctgtc gtcagctcgt gccgtgaggt   1080
gttgggttaa gtcccgcaat gagcgcaacc cctactgcca gttactaaca ggtaaagctt   1140
gaggactctg gcggaactgc cgatgacaaa tcggaggaag gtggggatga cgtcaagtca   1200
tcatggccct tatgtccagg gctacacacg tgctacaatg gttgctacaa agcgaagcaa   1260
gaccgtaagg tggagcaagc cgcaaaaaag caatcgtagt tcggattgaa gtctgaaact   1320
cgacttcatg aagttggaat cgctagtaat cgcgcatcag cacggcgcgg tgaatacgtt   1380
cccgggcctt gtacacaccg cccgtcacac catccgagtt ggggtaccc gaagtcgctt   1440
gtctaacctg caaaggagga cggtgccgaa ggtacgcttg gtaaggaggg tgaagtcgta   1500
acaaggtagc cgtaccggaa ggtgcggctg gatcacctcc ttaa                    1544
```

<210> 11
<211> 1548
<212> DNA
<213> Chlamydia trachomatis

<400> 11
```
ctgagaattt gatcttggtt cagattgaac gctggcggcg tggatgaggc atgcaagtcg     60
aacggagcaa ttgtttcggc aattgtttag tggcggaagg gttagtaatg catagataat    120
ttgtccttaa cttgggaata acggttggaa acggccgcta ataccgaatg tggcgatatt    180
tgggcatccg agtaacgtta aagaagggga tcttaggacc tttcggttaa gggagagtct    240
atgtgatatc agctagttgg tggggtaaag gcctaccaag gctatgacgt ctaggcggat    300
tgagagattg gccgccaaca ctgggactga gacactgccc agactcctac gggaggctgc    360
agtcgagaat ctttcgcaat ggacggaagt ctgacgaagc gacgccgcgt gtgtgatgaa    420
ggctctaggg ttgtaaagca ctttcgcttg gaataagag aagacggtta atacccgctg    480
gatttgagcg taccaggtaa agaagcaccg ctaactccg tgccagcagc tgcggtaata    540
cggagggtgc tagcgttaat cggatttatt ggccgtaaag gccgtgtagg cggaaaggta    600
agttagttgt caaagatcgg ggctcaaccc cgagtcggca tctaatacta tttttctaga    660
gggtagatgg agaaaaggga atttcacgtg tagcggtgaa atgcgtagat atgtggaaga    720
acaccagtgg cgaaggcgct tttctaattt atacctgacg ctaaggcgcg aaagcaaggg    780
gagcaaacag gattagatac cctggtagtc cttgccgtaa acgatgcata cttgatgtgg    840
atggtctcaa ccccatccgt gtcggagcta acgcgttaag tatgccgcct gaggagtaca    900
ctcgcaaggg tgaaactcaa agaattgac ggggggcccgc acaagcagtg gagcatgtgg    960
tttaattcga tgcaacgcga aggaccttac ctgggtttga catgtatatg accgcggcag   1020
aaatgtcgtt ttccgcaagg acatatacac aggtgctgca tggctgtcgt cagctcgtgc   1080
cgtgaggtgt tgggttaagt cccgcaacga gcgcaaccct tatcgttagt tgccagcact   1140
tagggtggga actctaacga gactgcctgg gttaaccagg aggaaggcga ggatgacgtc   1200
aagtcagcat ggcccttatg cccagggcga cacacgtgct acaatggcca gtacagaagg   1260
tagcaagatc gtgagatgga gcaaatcctc aaagctggcc ccagttcgga ttgtagtctg   1320
caactcgact acatgaagtc ggaattgcta gtaatggcgt gtcagccata acgccgtgaa   1380
tacgttcccg ggccttgtac acaccgcccg tcacatcatg ggagttggtt ttaccttaag   1440
tcgttgactc aacccgcaag gagagaggcg cccaaggtga ggctgatgac taggatgaag   1500
tcgtaacaag gtagccctac cggaaggtgg ggctggatca cctccttt               1548
```

<210> 12
<211> 1466
<212> DNA
<213> Bartonella henselae

<220>
<221> misc_feature
<222> (1)...(1466)
<223> n = A,T,C or G

<400> 12
```
tcctggctca ggatgaacgc tggcggcagg cttaacacat gcaagtcgag cgcactcatt     60
```

```
tagagtgagc ggcagacggg tgagtaacgc gtgggaatct accctttttct acggaataac    120
acagagaaat ttgtgctaat accgtatacg tcctactgga gaaagattta tcggagaagg    180
atgagcccgc gttggattag ctagttggtg aggtaaaggc tcaccaaggc gacgatccat    240
agctggtctg agaggatgat cagccacact gggactgaga cacggcccag actcctacgg    300
gaggcagcag tggggaatat tggacaatgg gggcaaccct gatccagcca tgccgcgtga    360
gtgatgaagg ccctagggtt gtaaagctct ttcaccggtg aagataatga cggtaaccgg    420
agaagaagcc ccggctaact tcgtgccagc agccgcggta atacgaaggg ggctagcgtt    480
gttcggattt actgggcgta aagcgcatgt aggcggatat ttaagtcaga ggtgaaatcc    540
cagggctcaa ccctggaact gcctttgata ctggatatct tgagtatgga agaggtgagt    600
ggaattccga gtgtagaggt aaaattcgta gatattcgga ggaacaccag tggcgaaggc    660
ggctcactgg tccattactg acgctgaggt gcgaaagcgt ggggagcaaa caggattaga    720
taccctggta gtccacgccg taaacgatga atgttagccg ttgggtggtt tactgctcag    780
tggcgcacgt aacgcattaa acattccgcc tggggagtac ggtcgcaaga ttaaaactca    840
aaggaattga cggggggccc g cacaagcggt ggagcatgtg gtttaattcg aagcaacgcg    900
cagaacctta ccagcccttg acatcccgat cgcgggaagt ggagacaccc tccttcagtt    960
cggctggatc ggagacaggt gctgcatggc tgtcgtcagc tcgtgtcgtg agatgttggg   1020
ttaagtcccg caacgagcgc aaccctcgcc cttagttgcc agcattcagt tgggcactct   1080
aggggggactg ccggtgataa gccgagagga aggtggggat gacgtcaagt cctcatggcc   1140
cttacgggct gggctacaca cgtgctacaa tggtggtgac agtgggcagc gagatcgcaa   1200
ggtcgagcta atctccaaaa gccatctcag ttcggattgc actctgcaac tcgagtgcat   1260
gaagttggaa tcgctagtaa tcgtggatca gcatgctacg gtgaatacgt ncccgggcct   1320
tgtacacacc gcccgtcaca ccatgggagt tggtttttacc cgaaggtgct gtgctaaccg   1380
caaggaggca ggtaaccacg gtagggtcag cgactggggt gaagtcgtaa caaggtagcc   1440
gtagggaacc tgcggctgga tcacct                                         1466
```

<210> 13
<211> 1487
<212> DNA
<213> Hemophilis influenza

<220>
<221> misc_feature
<222> (1)...(1487)
<223> n = A,T,C or G

<400> 13
```
naattgaaga gtttgatcat ggctcagatt gaacgctggc ggcaggctta acacatgcaa     60
gtcgaacggt agcaggagaa agcttgcttt cttgctgacg agtggcggac gggtgagtaa    120
tgcttgggaa tctggcttat ggaggggggat aacgacggga aactgtcgct aataccgcgt    180
attatcggaa gatgaaagtg cgggactgag aggccgcatg ccataggatg agcccaagtg    240
ggattaggta gttggtgggg taaatgccta ccaagcctgc gatctctagc tggtctgaga    300
ggatgaccag ccacactgga actgagacac ggtccagact cctacgggag gcagcagtgg    360
ggaatattgc gcnatggggg gaaccctgac gcagccatgc cgcgtgaatg aagaaggcct    420
tcgggttgta aagttctttc ggtattgagg aaggttgatg tgttaatagc acatcaaatt    480
gacgttaaat acagaagaag caccggctaa ctccgtgcca gcagccgcgg taatacggag    540
ngtgcgagcg ttaatcggaa taactgggcg taaagggcac gcaggcggtt atttaagtga    600
ggtgtgaaag ccccgggctt aacctgggna ttgcatttca gactgggtaa ctagagtact    660
ttagggaggg gtagaattcc acgtgtagcg gtgaaatgcg tagagatgtg gaggaatacc    720
gaaggcgaag gcagcccctt gggaatgtac tgacgctcat gtgcgaaagc gtggggagca    780
aacaggatta gataccctgg tagtccacgc tgtaaacgct gtcgatttgg gggttggggt    840
ttaactctgg cacccgtagc taacgtgata aatcgaccgc ctggggagta cggccgcaag    900
gttaaaactc aaatgaattg acggggggccn gcacaagcgg tggagcatgt ggtttaattc    960
gatgcaacgc gaagaacctt acctactctt gacatcctaa gaagagctca gagatgagct   1020
tgtgccttcg ggaacttaga gacaggtgct gcatggctgt cgtcagctcg tgttgtgaaa   1080
tgttgggtta agtcccgcaa cgagcgcaac ccttatcctt gttgccagc gacttggtcg    1140
ggaactcaaa ggagactgcc agtgataaac tggaggaagg tngggatgac gtcaagtcat   1200
catggccctt acgagtaggg ctacacacgt gctacaatgg cgtatacaga gggaagcgaa   1260
```

8

```
gctgcgaggt ggagcgaatc tcataaagta cgtctaagtc cggattggag tctgcaactc        1320
gactccatga agtcggaatc gctagtaatc gcgaatcaga atgtcgcggt gaatacgttc        1380
ccgggcnttg tacacaccgc ccgtcacacc atgggagtgg gttgtaccag aagtagatag        1440
cttaaccttt tggagggcgt ttaccacggt atgattcatg actgggg                      1487
```

<210> 14
<211> 1487
<212> DNA
<213> Shigella dysenterae

<400> 14
```
tggctcagat tgaacgctgg cggcaggcct aacacatgca agtcgaacgg taacagaaag        60
cagcttgctg tttgctgacg agtggcggac gggtgagtaa tgtctgggaa actgcctgat       120
ggagggggat aactactgga aacggtagct aataccgcat aacgtcgcaa gaccaaagag       180
ggggaccttc gggcctcttg ccatcggatg tgcccagatg ggattagcta gtaggtgggg       240
taacggctca cctaggcgac gatccctagc tggtctgaga ggatgaccag ccacactgga       300
actgagacac ggtccagact cctacgggag gcagcagtgg ggaatattgc acaatgggcg       360
caagcctgat gcagccatgc cgcgtgtatg aagaaggcct tcgggttgta aagtactttc       420
agcggggagg aagggagtaa agttaatacc tttgctcatt gacgttaccc gcagaagaag       480
caccggctaa ctccgtgcca gcagccgcgg taatacggag ggtgcaagcg ttaatcggaa       540
ttactgggcg taaagcgcac gcaggcggtt tgttaagtca gatgtgaaat ccccgggctc       600
aacctgggaa ctgcatctga tactggcaag cttgagtctc gtagagggggg gtagaattcc       660
aggtgtagcg gtgaaatgcg tagagatctg gaggaatacc ggtggcgaag gcggcccccct       720
ggacgaaaac tgacgctcag gtgcgaaagc gtggggagca acaggatta gatacctggg       780
tagtccacgc cgtaaacgat gtcgacttgg aggttgtgcc cttgaggcgt ggcttccgga       840
gctaacgcgt taagtcgacc gcctggggag tacggccgca aggttaaaac tcaaatgaat       900
tgacgggggc cgcacaagc ggtggagcat gtggtttaat tcgatgcaac gcgaagaacc       960
ttacctggtc ttgacatcca cagaaccttg tagagatacg agggtgcctt cgggaactgt      1020
gagacaggtg ctgcatggct gtcgtcagct cgtgttgtga atgttgggt taagtcccgc      1080
aacgagcgca acccttatcc tttgttgcca gcggtccggc cgggaactca aaggagactg      1140
ccagtgataa actggaggaa ggtgggggatg acgtcaagtc atcatggccc ttacgaccag      1200
ggctacacac gtgctacaat ggcgcataca aagagaagcg acctcgcgag agcaagcgga      1260
cctcataaag tgcgtcgtag tccggattgg agtctgcaac tcgactccat gaagtcggaa      1320
tcgctagtaa tcgtggatca gaatgtcacg gtgaatacgt tcccgggcct tgtacacacc      1380
gcccgtcaca ccatgggagt gggttgcaaa agaagtaggt agcttaacct tcgggagggc      1440
gcttaccact ttgtgattca tgactggggt gaagtcgtaa caaggta                    1487
```

<210> 15
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 15
```
ggactacgac gcactttatg ag                                                 22
```

<210> 16
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 16

```
ggtccgcttg ctctcgcgag g                                           21

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 17
gcaaaggtat taactttact c                                           21

<210> 18
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 18
gctgcggtta ttaaccacaa c                                           21

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 19
gcactttatg aggtccgctt g                                           21

<210> 20
<211> 4
<212> DNA
<213> Unknown

<220>
<223> No sequence is present

<400> 20
000

<210> 21
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 21
tgctgcctcc cgtaggagtc t                                           21
```

10

```
<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 22
attaccgcgg ctgctggcac g                                              21

<210> 23
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 23
accagggtat ctaatcctgt t                                              21

<210> 24
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 24
cacatgctcc accgcttgtg c                                              21

<210> 25
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 25
ttgcgggact taacccaaca t                                              21

<210> 26
<211> 4
<212> DNA
<213> Unknown

<220>
<223> No sequence is present

<400> 26
000

<210> 27
<211> 21
```

11

```
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 27
cgcggctgct ggcacgtagt t                                              21

<210> 28
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 28
acttaaccca acatctcacg a                                              21

<210> 29
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 29
tttacgccca gtaattccga                                                20

<210> 30
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 30
actcccatgg tgtgacgggc gg                                             22

<210> 31
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 31
aatctgagcc atgatcaaac t                                              21

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> antisense oligomer

<400> 32
ccctctttgt gcttgcgacg t                                               21

<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 33
accccccтct acgagactca a                                               21

<210> 34
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 34
ccacgcctca agggcacaac c                                               21

<210> 35
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 35
tctcatctct gaaaacttcc g                                               21

<210> 36
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 36
catgatcaaa ctcttcaatt t                                               21

<210> 37
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
```

13

<223> antisense oligomer

<400> 37
ccctctttgg tcttgcgacg t   21

<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 38
tacccccctc tacgagactc a   21

<210> 39
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 39
gccacgcctc aagggcacaa c   21

<210> 40
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 40
cagagagcaa gccctcttca t   21

<210> 41
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 41
cctgctttct cccgtaggac g   21

<210> 42
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

14

<400> 42
caccaccctc tgccatactc t

<210> 43
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 43
ctaagatctc aaggatccca a

<210> 44
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 44
ggcctgccgc cagcgttcaa t

<210> 45
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 45
ccctctttgg tccgtaaaca t

<210> 46
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 46
ccccctctac aagactctag c

<210> 47
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 47
acgactytag gtcacaacct c

21

21

21

21

21

21

```
<210> 48
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 48
aggatcaaac tcttatgttc a                                              21

<210> 49
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 49
cctgctttcc ctctcaagac g                                              21

<210> 50
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 50
cacctccctc tgacacactc g                                              21

<210> 51
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 51
ccaagcaatc aagttgccca a                                              21

<210> 52
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 52
ccagcgttca tcctgagcca g                                              21

<210> 53
```

```
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 53
gaaccatgcg gttcaaaata t                                              21

<210> 54
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> antisense oligomer

<400> 54
ctttcctctt ctgcactcaa g                                              21

<210> 55
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
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